

(a) 39 - 94 parts by weight of a propylene polymer having a melt flow rate of 0.1 - 5 g/10 min. and selected from propylene homopolymers and propylene-ethylene copolymers having a propylene content of at least 50% by weight,

(b) 1 - 20 parts by weight of a polypropylene modified with 0.1 - 10% by weight of an acid anhydride,

(c) 5 - 60 parts by weight of a styrene-based polymeric elastomer modified with 0.1 - 10% by weight of an acid anhydride

wherein a total of the components (a), (b) and (c) is 100 parts by weight,

and said olefin-based resin composition further comprising

(d) 30 - 200 parts by weight of a metal hydroxide, based on 100 parts by weight of the resin components.

REMARKS

Claims 9-14 are pending herein. By the Office Action, claims 1-8 are withdrawn from consideration; and claims 9-14 are rejected under 35 U.S.C. §112, second paragraph, and under §103. By this Amendment, claims 1-8 are canceled and claim 9 is amended. Claim 9 is amended to clarify the previous language of the claim, but not to narrow the scope of the claim from its original. No new matter is added.

Entry of this Amendment is proper under 37 C.F.R. §1.116 because the Amendment places the application in condition for allowance (for the reasons discussed herein) or places the application into better form for Appeal should an Appeal be necessary. The Amendment does not present any additional claims without canceling a corresponding number of finally rejected claims, does not raise the issue of new matter, and does not raise any new issues requiring additional search and/or consideration since the Amendment is directed to subject matter previously considered during prosecution. Furthermore, the amendments are necessary and were not earlier presented because they are in response to issues raised in the Final Rejection.

The amendments merely cancel non-elected claims 1-8 and amend claim 9 for clarity only.

Applicants respectfully request entry of the Amendment.

Applicants thank the Examiner for the withdrawal of the previous rejections, which have not been carried forward in the present Office Action.

I. Rejection Under §112

Claims 9-14 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Applicants respectfully traverse this rejection.

Claim 9 is rejected because the word "substantially" is allegedly unclear. Applicants respectfully disagree.

Applicants respectfully submit that the claims would be readily understood by one of ordinary skill in the art. However, for clarity only, claim 9 is amended to indicate that the olefin-based resin composition comprises a resin consisting essentially of the resin components (a) to (c), and that the olefin-based resin composition further comprises component (d). Accordingly, because the scope of the claims would be readily understood by one of ordinary skill in the art, the claims are not indefinite. Claims 9-12 satisfy the requirements of 35 U.S.C. §112, second paragraph.

The claims are thus not indefinite, and the rejection should be withdrawn.

Reconsideration and withdrawal of the rejection are respectfully requested.

II. Rejection Under §103

Claims 9-14 are rejected under 35 U.S.C. §103(a) over Inoue in view of EP 516.

Applicants respectfully traverse this rejection.

Independent claim 9 is directed to an electrical wire comprising an electrically conductive core and a covering on said core, said covering being an olefin-based resin composition comprising a 100 parts by weight resin and 30-200 parts by weight of a metal hydroxide, based on 100 parts by weight of the resin components. The resin consists

essentially of the following resin components: (a) 39 - 94 parts by weight of a propylene polymer having a melt flow rate of 0.1 - 5 g/10 min. and selected from propylene homopolymers and propylene-ethylene copolymers having a propylene content of at least 50% by weight, (b) 1 - 20 parts by weight of a polypropylene modified with 0.1 - 10% by weight of an acid anhydride, and (c) 5 - 60 parts by weight of a styrene-based polymeric elastomer modified with 0.1 - 10% by weight of an acid anhydride, wherein a total of the components (a), (b) and (c) is 100 parts by weight. Such a composition, and electric wiring including such a composition, is not taught or suggested by the cited references.

Furthermore, the Office Action has failed to set forth even a *prima facie* case of obviousness of the claimed invention. The requirements for a *prima facie* case of obviousness are specified and described in MPEP §2143. According to MPEP §2143, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference. Second, there must be a reasonable expectation of success. Third, the prior art reference must teach or suggest all the claim limitations. The reference applied in the Final Rejection fails to teach or suggest all the claim limitations, and there is no suggestion or motivation to modify the references.

A. Inoue Does Not Teach or Suggest the Claimed Invention

In contrast to the claimed invention, Inoue only discloses a flame-retardant olefin polymer composition comprising the following components (a), (b) and (c). 100 parts by weight of the resin component includes (a) 99 to 60% by weight of an ethylene-alpha-olefin copolymer having a density of 0.86 to 0.91 g/cm³, a boiling n-hexane insoluble matter of 10% by weight or more and a maximum peak temperature of 100°C or more in terms of differential scanning calorimeter and (b) 1 to 40% by weight of an olefin polymer modified with an unsaturated carboxylic acid or its derivative. Component (c) is 20 to 200 parts by

weight of an inorganic flame retarder. Abstract. Inoue also discloses an electrical material employing the aforesaid composition. Abstract.

The Office Action previously asserted that Inoue disclosed all of components (a)-(c) of the claimed invention, satisfying all of the instant claim limitations. However, that rejection was incorrect, and was withdrawn in the present Office Action.

1. Inoue Does Not Teach Component (a)

First, with respect to the component (a), Inoue does not disclose that the component is a propylene polymer selected from propylene homopolymers and propylene-ethylene copolymers having a propylene content of at least 50% by weight. At most, Inoue discloses that the material can be an ethylene-alpha-olefin copolymer. Col. 6, lines 40-60. Specific examples of the ethylene-alpha-olefin copolymer are stated to include an ethylene-propylene copolymer (having $MI=0.5$ g/10 min and density= 0.890 g/cm³) and ethylene-propylene copolymer (having $MI=1.9$ g/10 min and density= 0.86 g/cm³, trade name: EP02p; Japan Synthetic Rubber Co., Ltd.). Col. 11, lines 3-11. However, nowhere does Inoue disclose that the propylene content is at least 50% by weight, as claimed. Because the propylene content can vary, it would not be inherent that Inoue's polymers would have such a high propylene content, particularly in view of the fact that Inoue discloses that all of the materials must include at least ethylene in addition to the alpha-olefin.

Furthermore, Inoue nowhere teaches or suggests that the propylene content must be at least 50% by weight, as claimed. Inoue nowhere teaches that the propylene content is important, or that any specific effects could or would be achieved by selecting the instantly claimed propylene content. Inoue thus fails to teach or suggest component (a) as claimed.

2. Inoue Does Not Teach Component (b)

Second, with respect to the component (b), Inoue does not disclose that the component is specifically 1 - 20 parts by weight of a polypropylene modified with 0.1 - 10%

by weight of an acid anhydride, as claimed. At most, Inoue discloses that the described material (b) can be an olefin polymer modified with an unsaturated carboxylic acid or a derivative thereof. Col. 7, lines 10-16. Although Inoue broadly and separately discloses that the olefin polymer can be polypropylene, that the unsaturated carboxylic acid can be maleic acid, and that the derivative can be an anhydride, such separate disclosures would not have rendered obvious the claimed invention. Nowhere does Inoue specifically teach or suggest first selecting polypropylene from among the long list of disclosed polymers, second selecting maleic acid from among the long list of disclosed unsaturated carboxylic acids, and third selecting an anhydride of such maleic acid, and then using those materials to form the identified component. In fact, in the Examples, Inoue discloses as the component (b) only the use of ethylene-1-butene copolymers. Col. 11, lines 15-23.

It is not sufficient that each element merely be disclosed in the reference. Rather, the reference must teach or suggest combining those separate components according to the claimed invention, in order to have rendered obvious the claimed invention. Inoue nowhere provides any such teachings, and thus at most teaches that all of the combinations would provide comparable results. Inoue fails to teach or suggest that specific selection of the monomer, acid anhydride, and modification amount would provide any improved results. Inoue thus fails to have rendered obvious component (b) of the claimed resin.

3. Inoue Does Not Teach Component (c)

Third, with respect to the component (c), Inoue does not teach or suggest that the component is specifically 5 - 60 parts by weight of a styrene-based polymeric elastomer modified with 0.1 - 10% by weight of an acid anhydride, as claimed. At most, Inoue discloses that "the following rubbers may be used together with the above mentioned olefin polymers." Inoue then discloses that the rubbers include styrene-butadiene rubber. Col. 7, lines 35-39. However, Inoue does not teach or suggest that the rubbers, much less the

specific styrene-butadiene rubber, should be specifically modified in the same manner as the component (b). That is, Inoue does not teach or suggest that the rubber should likewise be modified with 0.1 - 10% by weight of an acid anhydride, as claimed. In fact, the Examples set forth in Inoue fail to teach or suggest the inclusion of a styrene-butadiene rubber at all, much less in the modified form required by the instant claims.

Furthermore, Inoue only teaches, at most, that the rubber materials, such as styrene-butadiene rubber, can be used "together with" the olefin polymers. However, that disclosure only refers at most to a mixture of the rubber material with the olefin polymer, i.e., a mixture of two separate components. Inoue does not disclose, teach or suggest that the rubber material and the olefin polymers should be combined in a single component, i.e., as a styrene-based polymeric elastomer, as claimed. Inoue then further does not teach or suggest that such a unitary component should be further modified with 0.1 - 10% by weight of an acid anhydride, as described above.

Inoue thus not only fails to teach or suggest the basic material of the claimed component (c) itself, but fails to teach or suggest the further modification of that component. Accordingly, in total, Inoue fails to have rendered obvious the claimed invention.

4. Inoue Does Not Teach the Claimed Combination

As described above, Inoue fails to teach or suggest each of the required components (a), (b), and (c) of the claimed invention. Because Inoue does not teach or suggest the claimed components, Inoue likewise cannot teach or suggest combining those separate components together into a resin, as claimed. The Office Action has failed to set forth even a prima facie case of obviousness, and Inoue thus fails to have rendered obvious the claimed invention

B. EP 516 Does Not Overcome the Deficiencies of Inoue

The Office Action admits that Inoue does not disclose all of the claim limitations. However, the Office Action cites EP 516, and argues that EP 516 discloses the missing claimed elements, and that it would have been obvious to combine EP 516 with Inoue to practice the claimed invention. Applicants disagree.

EP 516 discloses a flame retardant insulation composition comprising a functionalized selectively hydrogenated monoalkenyl arene-conjugated diene block copolymer, a plasticizer, polypropylene, and a hydrated inorganic filler. Abstract. The Office Action further points out that EP 516 discloses that the polypropylene can be maleic anhydride functionalized polypropylene. Page 4, lines 30-33.

However, EP 516 suffers from many of the same deficiencies as Inoue. Although EP 516 discloses that the polypropylene can be maleic anhydride functionalized polypropylene, the reference fails to teach or suggest that the polypropylene is specifically modified with 0.1 - 10% by weight of an acid anhydride, as claimed. EP 516 instead merely discloses that various commercially available maleic anhydride functionalized polypropylenes can be used, such as that sold as Plexar 2110 by Northern Petrochemical Company.

Accordingly, even the combination of EP 516 with Inoue fails to teach or suggest the specific component (b) of the claimed invention. The combination of references fails to disclose the specific functionalization amount, which is an express limitation of the claimed invention.

The claims are thus patentable over the cited combination of references.

C. There is No Motivation to Combine the Cited References

Further, even if EP 516 taught the elements missing from Inoue, there is no motivation to combine the cited references in the first instance to practice the claimed invention. The Office Action asserts that the references are combinable because it is known

in the art that EP 516's hydrogenated monoalkenyl arene-conjugated diene block copolymers are known to provide specific advantages. Whether or not this is true, Applicants' disagree with the conclusion reached by the Office Action.

In the first instance, regardless of any known benefits that may be provided by the copolymers of EP 516, such benefits have nothing to do with the omissions of Inoue. The Office Action cites EP 516 as disclosing the maleic acid functionalization of polypropylene, but this feature is separate from the hydrogenated monoalkenyl arene-conjugated diene block copolymer component of EP 516. Even if the copolymers of EP 516 are known to provide better results, such knowledge would not have motivated one of ordinary skill in the art to have looked at the reference's separate disclosure of using maleic acid functionalized polypropylene.

In the second instance, even if the copolymers of EP 516 are known to be superior, then the Office Action has failed to establish any motivation to combine EP 516 and Inoue. If EP 516 indeed were superior, then one of ordinary skill in the art would simply have been motivated to use the coating composition disclosed in EP 516 itself, rather than to attempt to modify the composition of Inoue. Any other reason for combining the references would merely be an improper hindsight reconstruction of the claimed invention, which is improper.

Thus, despite the teachings of EP 516, EP 516 still fails to teach or suggest the above-described omissions of Inoue. Furthermore, EP 516 fails to provide any teaching or suggestion to modify its disclosed compositions, and then to incorporate such modified teachings into the disclosed compositions of Inoue.

D. Conclusion

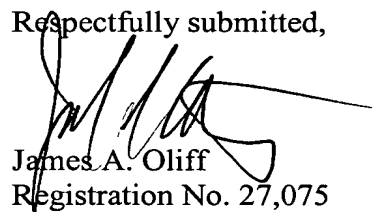
For at least these reasons, any combination of Inoue and EP 516 fails to have rendered obvious the claimed invention. Independent claim 9, and claims 10-14 dependent therefrom, would not have been obvious to one of ordinary skill in the art over the cited references.

III. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to telephone Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,


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Attachment:
Appendix

JAO:JSA

Date: February 20, 2003

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<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
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APPENDIX

Changes to Claims:

Claims 1-8 are canceled.

Please amend claim 9 as follows:

9. (Twice Amended) An electrical wire comprising an electrically conductive core and a covering on said core, said covering being an olefin-based resin composition comprising a resin consisting essentially of the following resin components:

(a) 39 - 94 parts by weight of a propylene polymer having a melt flow rate of 0.1 - 5 g/10 min. and selected from propylene homopolymers and propylene-ethylene copolymers having a propylene content of at least 50% by weight,

(b) 1 - 20 parts by weight of a polypropylene modified with 0.1 - 10% by weight of an acid anhydride,

(c) 5 - 60 parts by weight of a styrene-based polymeric elastomer modified with 0.1 - 10% by weight of an acid anhydride

wherein a total of the components (a), (b) and (c) is 100 parts by weight ~~and substantially no other resin component is present in the composition,~~

and said olefin-based resin composition further comprising

(d) 30 - 200 parts by weight of a metal hydroxide, based on 100 parts by weight of the resin components.